

*REMARKS/ARGUMENTS*

In response to the Office Action mailed May 17, 2007, Applicants amend their application and request continued examination. In this Amendment claims 15 and 16 are cancelled so that claims 1, 2, 4-8, and 10-14 remain pending.

*Request for Completion of Acknowledgement of Priority Claim*

Through the long prosecution of this patent application, Applicants have requested, four times, acknowledgement of the priority claim and receipt of the priority document. The Official Action mailed November 30, 2006 acknowledged, at page 2, receipt of the priority document. Applicants respectfully request that the acknowledgement of receipt of the priority document and of the priority claim be completed by checking of the appropriate three boxes of the PTOL-326 form in the next communication.

*This Amendment*

In this Amendment the claims are amended in an attempt to achieve further clarity. Some potentially imprecise language, possibly due to translational issues, has been made more precise. In the two remaining independent claims, claim 1 and claim 7, it is now explained that the operation period timer generates a synchronizing time for synchronizing periodic control of the respective device that includes the operation period timer. This amendment is consistent with description of the patent application, for example, concerning the devices 3a and 3b of the embodiment of Figure 3. Attention is particularly directed to the description in the patent application from page 23, line 20 through page 24, line 8 and to the following description in the patent application pertaining to the timing charts of Figures 4-8. The synchronizing time referred to in the amended claims corresponds to the "local sync" time mentioned in the cited passages of the patent application. A similar amendment is made in the other

pending independent claim, claim 7 which encompasses the embodiment of Figure 9 of the patent application. Amended claim 7 states more precisely that the control period timer of the controller, corresponding to element 10 in Figure 9 of the patent application, generates, rather than controls, the period of periodic control of the controllers.

### *The Rejection*

All of the claims now pending, claims 1, 2, 4-8, and 10-14, were rejected as obvious over Voth (U.S. Patent 6,351,821) in view of Circo (U.S. Patent 4,677,614) and further in view of Ando et al. (U.S. Patent 6,185,217, hereinafter Ando). This rejection is respectfully traversed, particularly with respect to the claims now presented.

### *Response to Rejection*

As in the other Office Actions issued in the protracted prosecution of this patent application, there is no specific explanation of the rejection of claims 1, 2, and 4-6. Instead, Applicants have been repeatedly directed to the rejection of claims 7, 8, and 10-14 as providing a basis for the rejection of claims 1, 2, and 4-6. This reference could be understood if all of the elements of claim 1 were present in claim 7 so that a rejection of a narrower claim, claim 7, would automatically function as a proper rejection of claim 1, a broader claim. However, a careful comparison of claims 1 and 7 shows that all of the elements of claim 1 are not present in claim 7. An example of an element in each device according to claim 1, that is not present in claim 7, is the timer synchronizing unit. In claim 7, each of the devices controlled includes a comparing unit, but that comparing unit is not identical to and not a species of the timer synchronizing unit of claim 1.

Accordingly, even if the rejection of claim 7 were correct, that rejection cannot be applied to claim 1 because claim 1 is not a generic claim that encompasses claim 7. In other words, even if *prima facie* obviousness should be established with respect to

claim 7 and all of its dependent claims, that establishment would not automatically establish *prima facie* obviousness as to claim 1 and its dependent claims. On that ground, namely the failure to explain the rejection of claim 1 and its dependent claims, the rejection of those claims is respectfully traversed.

In the event the Examiner now provides an explanation of the grounds of rejection of claim 1 and its dependent claims, then that rejection cannot properly be a final rejection because such an explanation has never been provided in any of the five Office Actions that have issued so far in the prosecution of this patent application.

In rejecting independent claim 7, the Examiner acknowledged that the part of the claimed invention described in the final two paragraphs of claim 7 are not disclosed nor suggested by Voth. Those final two paragraphs describe an operation period timer which generates a synchronizing time for synchronizing periodic control of a respective device containing that operation period timer. Likewise, it is acknowledged that Voth does not describe the comparing unit of claim 7 in which the difference between synchronizing time, indicated by the time stamp of the periodic transfer packet, and the global time, indicated by the second global timer of the respective device is determined, determines the time difference between the two times, and determines the timer correction value based upon that difference. Further, in the invention, the comparing unit actually corrects the operation period timer, at the synchronization time, based on the timer correction value determined by the comparing unit.

Circo was cited as allegedly teaching an operation period timer and a comparing unit corresponding to those elements of claim 7. Ando was cited as allegedly describing correction of an operation period timer through the comparing unit, based upon a time correction value as described in the claim 7 that was examined. Applicants respectfully disagree.

First, Applicants disagree with the purported modification of Voth with Circo for the reasons presented in the Response filed February 28, 2007 and appearing at

pages 8-10 of that Response. That Response is incorporated by reference, without again being set forth at length.

In addition to the previously supplied remarks, Applicants point out that Circo relates to a multi-mode network communication system and corresponding method, employing a synchronous data communication controller as an integral part of the communication system and method. Circo is different from the invention defined by claim 7 and its dependent claims in both the object that is synchronized and the operation of the apparatus.

As best understood, based upon the portions of Circo cited in the Office Action, the Examiner is comparing the second global timer and the operation period timer of claim 7 to a received clock recover synchronizer, S(RC), and a master clock synchronizer, S(MC), as shown in Figure 1 of Circo. However, the master clock synchronizer of Circo is simply synchronized by the received clock recover synchronizer. In other words, Circo does not disclose a system for time synchronization of periodic control using a control period time in the controller and an operation period timer in the device as described in claim 7. Therefore, even if Voth were modified by Circo, those elements of the invention as defined by claim 7 would not be found in the combination. Thus, *prima facie* obviousness cannot be established by that combination.

Further, Applicants do not agree that Ando stands for the proposition for which it was cited. Even as described in the Abstract of Ando, Ando relates to a device and initializing method in a ring communication path providing precise synchronization of master and slave stations for accurate communication amongst the stations. In Ando, respective slave stations include timers connected to a ring communication path and synchronized using a specific communication frame. A master station recognizes the number of slave stations present, their connection sequence, and notifies each of the slave stations of an individual communication delay time. In response, respective slave stations correct their timers to achieve agreement with the timer of the master station. Column 3, lines 7-12 of Ando describes the calculation by the master station

of the transmission delay times for notifying the slave stations based upon accumulated respective transmission delay times for individual slave stations.

The invention is unlike Ando because the operation period timer, as described in the final paragraphs of claim 7, is corrected by the timer synchronous unit based upon the timer correction value at the synchronizing time. In other words, Ando does not disclose a system for time synchronization with periodic control, using a control period timer in the controller and an operation period time in the device controlled.

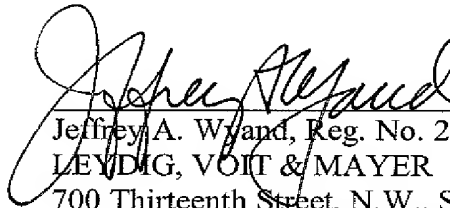
In summary, Circo and Ando, even considered in combination, fail to supply the parts of the invention as defined by claim 7 that are acknowledged to be missing from Voth. Therefore, no combination of those three publications can establish *prima facie* obviousness as to that claim or any of its dependent claims 8 and 10-14.

Specifically, the combination fails to describe an operation period timer of a control device that generates a synchronization time for synchronizing periodic control of the control device and a timer synchronization unit that determines the time difference between the global time of the global timer of the device, at the synchronization time, and the global time indicated by the global timer of the controller, followed by determination of a time correction value based upon this time difference. Therefore, upon reconsideration, the rejection of those claims should be withdrawn.

As already stated, because no reasons for the rejection of claim 1 and its dependent claims 2 and 4-6 have been provided, Applicants cannot knowledgeably respond to the rejection in view of the distinctions between independent claims 1 and 7. The rejection of those claims 1, 2, and 4-6 should either be withdrawn or explained in a new Office Action that cannot properly be a final rejection.

Prompt and favorable action is earnestly solicited.

Respectfully submitted,

  
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